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A. C. HODGE

COAL PRODUCTION AND THE STRIKE SETTLEMENT

There is to be a respite in the bituminous coal controversy—a commission is to be appointed which will presumably arrange terms of settlement for wages. But it will be only a respite unless, besides patching up a truce on the wages issue, we take advantage of the breathing space thus afforded to do some fundamental thinking on the whole economic situation of the coal industry and to take measures to put the industry on a more satisfactory footing. A mere wage compromise will settle nothing. The fundamental need of the industry is more regular and more efficient production, and the first step is to have some competent body turn the light on the technical and economic facts of the industry in the search for possibilities of improvement. This work demands the services of expert engineers and men familiar with the mining and commercial sides of the coal business, but the inquiry should be in the control of disinterested persons.

The typical "hard-headed" attitude toward proposals of this type is to the effect that there is not much promise in appointing somebody to tell somebody else how to run his business more efficiently than he does already. If people do something that looks inefficient there is generally a reason, and it is generally the case that the removal of such apparent wastes would be more expensive than the wastes themselves. One may grant the *prima facie* force of this argument, though the vogue of the efficiency expert proves that it does not tell the whole story. But in the present case there are definite economic reasons why certain efficiency measures might well be profitable for the industry as a whole or for the nation as a whole, even if they do not appear profitable after the fashion of calculation of employers in general and of the mine operators in particular. And there are possibilities of arranging that the mine operators should find it profitable to carry out efficiency measures which at present they figure do not pay. The present note aims to present a working hypothesis in support of this claim.

The miners' demands at the commencement of the recent strike included not merely an increase of wages but a demand for a six-hour day and a five-day week. This demand has been variously interpreted, but it clearly has its origin in the irregularity of production. Some explain that if the miners work this much throughout the year they will produce at least as much coal as is now turned out, and they seem to expect that the result will be to give them work to do in spring and summer, as a result of not turning out as much coal in what is now the rush season. Others, perhaps, do not really expect that the seasonal character of the industry can be cured by any such simple prescription but intend to make the most of it as a point against the employers and to register a strong protest, meanwhile safeguarding the earnings of labor by an increase in wages. A little analysis will show that to limit the working week would not touch the causes of the irregularity of production, but would merely increase the cost of getting out coal and, very likely, reduce the available supply still further. What are the main facts bearing on this question?

Bituminous coal is difficult and expensive to store. It is of different grades, differing in their capacity to stand storage, and storage under water is often necessary if the coal is to be kept from disintegration, spontaneous combustion, or other deterioration. Some solve this problem in part by converting coal into coke, which will stand storage, and this is one of the possibilities which should be looked into by a board of experts. At present, common practice is to produce coal only as fast as it can be marketed and to furnish no storage facilities at the mines, relying on loading the coal directly into railroad cars. It is claimed that it is impracticable to store coal at the mines, owing to lack of space and to the increased cost of the extra handling involved. As a result the operation of the mines is at the mercy of local car shortages as well as at the mercy of the market, and the mines have, in typical years, operated from 195 to 232 days, averaging $213\frac{1}{2}$ days for the years 1910 to 1915, inclusive. The war raised the figures to 243 in 1917, and 249 in 1918, but 1919 shows a falling off. The industry is distinctly seasonal, and this fact makes it harder for the railroads to furnish cars as fast as they are needed in the busy season. This helps to make railroading a seasonal industry also, forcing the roads to carry surplus equipment through part of the year to meet the "peak load" at crop-moving and coal-moving time.

It is evident that coal mined in the slack season is worth far less than coal mined in winter, and the mine operators would be forced

either to bear the expense or deterioration involved in storage or sell the off-season coal at a very heavy reduction in price, in order to make it worth while for large-scale dealers to take the storage problem on their shoulders. Would this pay? Apparently the assumption is that it would not, but there is reason to doubt whether this answer can be taken as final. In figuring the minimum price that it pays to accept for the sake of keeping the mine running in the off-season, the operator presumably charges nothing for return on his investment or other overhead expenses which run on whether the workings are open or not. But he does figure the wages of the labor that takes out the coal as an expense that must be covered. This is so obvious that it seems insane to question it. Yet there is strong ground for the thesis that this is not sound cost accounting from the point of view of national efficiency or even from the point of view of the mine operators themselves, in the long run; and that wages ultimately are nearly as much an overhead cost as interest on investment is, for purposes of figuring the economy resulting from keeping the workings going in slack times and utilizing to the full the productive capacity of the industry.

In the long run it is probably yearly earnings rather than rates of wages per ton or per day that have to be maintained at a level high enough to attract labor in competition with other occupations. This assumes that wages are fixed with reference to coal miners who have no side occupations that can be dovetailed with coal-mining and so contribute substantially to meet the cost of living. How closely this agrees with the facts might require an investigation to determine: many miners have their own gardens and it is difficult offhand to weigh the importance of such supplementary work. If, however, yearly earnings are the significant thing, the operators have to pay very nearly as much wages for $213\frac{1}{2}$ days, work in a year as they would for 250 days or 300 days, if they could operate that many days with regularity. But this is a hypothesis about a long-run tendency, and, however true it may be, the private operator is quite correct in figuring that if he works ten extra days in the off-season his wage bill for that year goes up by exactly ten days' wages.

For the nation as a whole, its labor power is a standing asset, and any failure to utilize it is just as definite a loss as failure to utilize a mechanical plant. It pays, socially, to utilize labor as long as it produces anything toward its own necessary upkeep, which must somehow be finally met. Thus social cost accounting shows a gain from employing labor in a slack season, even if the product will not pay regular day

wages to the laborers; social accounting shows a gain where private accounting would show a loss. It is in the light of this sort of accounting, with labor largely an overhead cost, that the coal commission should study the costs of storage and other ways and means of regularizing production.

But is there any way of getting private producers to adopt findings that are in conflict with ordinary cost accounting? The question hinges partly on whether it is possible to make wages, within limits, virtually an overhead cost to the employer; and anything which would accomplish this result would put the regularizing of coal production on a sound economic basis. We might exhort the wage-earners to work for less pay or next to nothing in the spring and summer months, but this hardly offers an inspiring prospect of success. A more tangible proposal would be a sliding scale of wages, in which the wages per day or per ton are reduced as the number of days' operation is increased, in such fashion as to give the wage-earner some increase in yearly earnings and the employer a decided reduction in the wages cost of coal per ton. It would need a decided reduction, because if the plan succeeded there would be more coal to be marketed and the price would presumably have to come down.

It is not easy to draw up specifications for embodying this sliding-scale principle in a wage schedule. The most practicable method might possibly be to set a goal of so many days' operation within a certain period, and a basic rate of wages figured on the assumption that this number of days' operation is actually attained. If the goal is not reached the employer should pay a bonus wage for the time actually worked, the bonus to be figured on the sliding-scale principle, so that the men do not get quite as high total earnings with the bonus as they would without it if the goal of operation had been reached. If the goal is exceeded, possibly the contract could provide a sharp reduction in wages for the remaining days of the period. This might not, however, be practicable. Probably a better way would be to give the employer some latitude in setting the goal, his basic wage rate varying according to how high the goal is set, and being calculated by the use of the sliding scale already worked out. In this case it would be to the employer's interest to set the goal high, and it might become necessary to impose a maximum limit on the output goal and a corresponding minimum limit on the basic rate of wages. The wage scale should be so fixed as to provide fair minimum earnings if production is not speeded up, while the gain from increasing the numbers of days' operation should

go more to the employer than to the employee, in order to defray the costs involved in regularizing production. The length of the period taken as a unit for calculation would also need to be very carefully considered.

The foregoing is merely one suggestion of a means to the desired end. If the matter were given serious thought other and better plans would doubtless be devised, though none would be "fool-proof," nor free from administrative difficulties and the need of guarding against evasions. But some system of payment working on this principle would give a substantial incentive to mine operators to make themselves independent of temporary car shortages (thus making it possible for the railroads' cars to be more effectively utilized) and either to store coal in the slack season or to sell it at a price that will make it worth while for others to store it. Possibly seasonal freight rates would contribute to this general result, making it cheaper to get coal to the dealers' bins in summer than in winter. If the seasonal demand for coal cars could be evened in this way, it would be well worth while, and a sound application of the principle of the load factor.

Of course, if the cost of storing bituminous coal is absolutely prohibitive, and conversion into coke impossible, all this is useless speculation. But a cost that would be prohibitive to private operators on the ordinary basis of figuring may be far from prohibitive if the problem is attacked in the light of the principle here set forth. The bituminous industry appears to be one of our most interesting examples of idle overhead and to offer a great opportunity for economy through improving the load factor. Even if the seasonal peak cannot be evened out, some chances for increased efficiency can nearly always be pointed out by technical experts in a business in which production is decentralized and carried on in relatively small-scale units and by methods largely influenced by custom. Only through increasing efficiency can increases in real wages be made self-supporting from the point of view of the community as a whole.

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